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ORIGINAL ARTICLES.

Typhoid Fever.

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Read before the thirty-first annual meeting of the Kansas Medical Society.

In this brief article I shall not consume your time with a history of the disease, only remarking that we who have been contending with it for a quarter of a century or more have with absorbing interest watched the slow unraveling of the mystery which once surrounded this ever-present disease.

Nor will I take much time in discussing the causes, or citing evidence to prove that it is a germ disease, as this will be more fully presented in the other paper on this topic, and in the discussion.

A large majority of the profession are substantially agreed that typhoid fever is due—*first*, to a deranged condition of the digestive tract, whereby the digestive fluids lose their normal germicidal properties, and thus permit, *second*, the propagation of the bacillus typhosus. That these rapidly multiply and produce poisons—or, more properly a poison—which is the cause of the nervous and cerebral symptoms seen early in the disease. That these germs and their toxins cause still further derangement of the organs of digestion, and thus make possible the rapid multiplication of other pathogenic germs; and thus we have, later in the disease, a mixed infection. That by their presence they cause ulceration of the ileum, and other portions of the bowels, thus causing iliac tenderness, sometimes hemorrhage, and occasionally perforation.

Diagnosis.—It is conceded by all observers that an early and positive diagnosis of typhoid fever cannot be made. That it often requires several days of careful observation to enable one to be even reasonably certain that it is typhoid fever. The symptoms are so extremely variable, and often so obscure, that it requires great care not to make mistakes that might prove most unfortunate. The progressive debility and loss of appetite which cannot be accounted for in any other way should excite our suspicion. If, with this, we have tenderness confined to the right iliac region, not caused by disease of the appendix, it should tend to confirm this suspicion. If pressure over the cecum causes a croaking or gurgling sound, we may call that fairly good circumstantial evidence. A morning temperature anything above normal, and rising for several hours only to fall again, is somewhat typical. In my experience, these four symptoms, with tympanitis, have been more constant and more to be depended upon than all others. But it should not be forgotten that any, or even nearly all symptoms, may be absent. We may have cases without elevation of temperature, or without headache or pain, or with clean moist tongue, or with normal pulse, or with only slight loss of appetite, or with so little debility that the patient is up and walking about every day. These are the atypical cases, and, of course, many of them are never recognized, while others are suddenly converted into typical and sometimes fatal cases by some indiscretion.

Of course it will be readily seen that the diagnosis is usually only provisional at first, and is largely by exclusion.

A good test for typhoid fever has recently been worked out, which while not available early in the disease, is, however, extremely interesting and full of promise in other

directions.

One way of making this test is by adding to a recent beef broth culture of the typhoid bacillus a little serum, or solution of dried blood, from a patient with typhoid fever, or from one who has recently had the disease. This seems to paralyze the bacilli; they lose their power of motion, and, probably in obedience to the laws of gravity, they clump together and are finally precipitated, leaving a clear medium above. The substance in the blood which produces this remarkable effect has been named aglutinin, and seems to be one of nature's weapons, which, while not able to absolutely destroy, can at least paralyze the enemy for some hours, thus gaining valuable time.

Treatment.—Believing that the disease cannot exist without the presence in the alimentary canal of a specific germ, the plain indication would be to destroy the germ, or, in other words, to remove the cause. There are those, led by Dr. Woodbridge, of Cleveland, Ohio, who claim that this may be done in a few days by a very free use of germicides and cathartics. Much very creditable testimony is offered in support of this claim.

On the other hand, a large number—probably a large majority—claim that it is impossible to sterilize the alimentary tract, and worse than useless to try. Chief among these may be named Osler, of Baltimore, who strongly advocates the Brand treatment. There is abundant evidence that this is a good treatment, but it is not practical in ordinary practice; at least, in country practice.

What, then, shall the village and country doctor do? We know that in the interior of our patient are living enemies, who are doubling their numbers with a rapidity truly appalling, and that they are rapidly manufacturing poisons of such a deadly nature that the wonder is that he does not speedily perish. We are told that the cholera bacillus can multiply by two every half-hour. If the bacillus typhosus can increase at even half or one-fourth this rate, then why is it that the disease does not always and speedily prove fatal? How does the individual escape? What are nature's defenses?

The answer to these questions will afford us a clue to the intelligent management of this disease.

First, the germs are removed bodily in countless numbers in the discharges from the bowels; hence the diarrhea so often present, which should not be restrained, but rather encouraged, unless so profuse as to be exhausting, in which case bismuth is one of the most appropriate remedies, aided, if the case is urgent, by a mild astringent, or, if you must, a little morphine. If there is no diarrhea, give tenth-grain doses of calomel every hour until ten doses are given, then from four to eight hours apart for three or four days, after which a saline may be used in such quantities as to produce from one to three operations a day.

The bowels are also the great channel through which the toxins produced by the germs are to be eliminated. This is another reason for keeping them loose. Great care, however, should be used in the choice and use of laxatives, for we must remember that the alimentary canal already has much to contend with. The laxatives should always be aided by a daily enema of from one to two pints of warm sterilized water.

Another of nature's defenses is to rush the poison off through the kidneys. This we can greatly aid by a free use of pure water, which, while aiding them, at the same time protects them by diluting and rendering less irritating the poisons which must pass through. The water also facilitates the action of the laxatives. Boil the water to destroy any germs it may contain, for we have quite enough already. Boiling also precipitates lime and other impurities. Do not let the water be too cold—60 or 70 degrees is cool enough—and give considerably more than the patient would naturally call for. Another avenue for the elimination of poison is the skin, and plenty of water helps this process. The poison should be washed from the surface every day by the sponge bath.

By prompt elimination time is gained, and time is of immense importance. It has

long been known that if the non-corrosive poisons are not too rapidly administered, injurious, and even fatal doses may be borne; that is, toleration becomes established. It is this principle of toleration which enables you to enjoy your cigar, and this same principle probably enables the patient to withstand the poisons of the infectious diseases while means are being provided for their destruction. And chief among these are the anti-toxins, which are perfect antidotes.

But the production of these agents requires vital force, and so we must preserve all the energy possible, by enforcing perfect rest in bed; by prohibiting all business or conversation that could waste vital force; by refraining from giving depressing agents; by seeing that the patient gets plenty of sleep—using, if need be, valerian, and if this fails, sulphonal; by reducing fever when it is distressing; by the cool sponge bath; by relieving pain with acetanilid cautiously used and guarded with caffeine, or failing in this, codeine, or morphine as a last resort. Have the room well supplied with nature's own tonics—light and air, and have it made cheerful with flowers and pictures.

If there is much evidence of depression give strychnia sulphate, one-thirtieth of a grain from one to four times in twenty-four hours, or even larger doses if symptoms are urgent.

But most important of all is the diet. It should be liquid from the commencement until the ulcers are healed. It should be given in such quantities that it will be digested readily, so that there shall be none left over to form a culture medium for disease germs. And this seems to me of utmost importance. The digestion may be aided by pepsin.

One of the best articles of diet is meat juice, prepared by slightly frying juicy steak and pressing the juice out with a lemon squeezer; season to taste, but do not let the patient know the process or see the color. Malted milk is also well adapted to these cases. Egg albumen beaten to a stiff froth and slightly flavored and sweetened is very palatable and is readily assimilated. It is often possible to so manage that the patient relishes every feed. Feed sparingly and frequently, especially at first.

Among other liquid foods may be named raw custard, the various broths, and soups, and milk. This last, once so freely used, is often objectionable, owing to the large amount of casein, which may fail to be digested.

Now, what more can we do to aid in the struggle? Shall we use antiseptics or germicides? While it may be impossible to sterilize the alimentary canal, yet much may be done by seeing to it that nature's own germicides, the digestive fluids, have a fair chance and are not burdened by overfeeding. As to the use of drugs as germicides, while we may not give them in such quantities as to destroy all the germs, it does seem reasonable that we can limit their production and attenuate them so that they will be less virulent. For this purpose, and also to fulfill other indications, I have found no agent equal to turpentine. As a vehicle the yolks of eggs may be mixed with water until of the consistence of thin cream, then add sugar until it is like thick syrup. This will perfectly emulsify the oils. Give as much turpentine as can be safely tolerated by the stomach and urinary organs, which will be about eight or ten drops from three to six or eight hours apart. To this should be added two or three drops of oil of wintergreen, which is itself a powerful germicide, and helps to cover the taste of the turpentine. Apart from any germicidal action which turpentine may have, it is a good general stimulant. But that which renders it of especial value in these cases is the aid which it gives to the weakened muscular coat of the intestines.

In this disease there is usually paresis of the bowel, gas accumulates, there may be colicky pains, peristalsis is partially arrested and the danger of perforation increased. To relieve this condition or prevent it, I know of no other agent so prompt and pleasant in its effects. This matter of preserving the muscular tone of the bowels is important, and the strychnia is especially helpful for this purpose.

I will not further trespass upon your time to speak of the various accidents and complications, as this paper makes no pretensions to completeness, only remarking that if patients are seen early and treated on the general plan above outlined, laying especial stress upon the diet and free use of water, there will be few accidents or complications. I rarely have to contend with delirium, severe headache, insomnia, subsultus, tendinum, troublesome diarrhea, hemorrhage, or high temperature.

After making due allowance for the fact that my patients mostly live in the country and are therefore in better condition to resist disease, I believe my good fortune is largely due to the fact that they do not get too much food; and they do get, as far as I am able to have it so, plenty of air, water, sunshine, and rest.

Discussion—Dr. Ochiltree: I have been very much interested in the doctor's paper. I think that he has presented the ideal treatment for the country practitioner at least to follow. I can endorse everything that he has said, and in the main have endeavored to carry out the instructions that he has mapped out for himself to follow, but I wish to impress the importance of adhering strictly to the liquid diet. I want to state, while it is in my mind, that last fall I lost two cases of typhoid fever from perforation by indiscretion in diet. It was during the fruit season and we had an abundance of very fine fruit, and some of the patients begged for fruit and in two instances they got it; and the disturbance following so soon after the eating of this fruit, and the death resulted so soon, that I couldn't help but attribute it altogether to the eating of this fruit, and it taught me a lesson. I think I shall be more careful in the future to impress upon the minds of the nurses the desirability of refraining entirely from that kind of fruit and others.

Dr. Pearse, of Kansas City, Mo.: Mr. President, when Dr. Taylor said that if he was a city man he would send that prescription to the drug store, he looked straight at me—

Dr. Taylor: It was an accident.

Dr. Pearse: I want to say that although I do practice medicine in the city I believe that that method of making it is better than any drug store can ever do it. I would simply advise the addition of a small amount of castor oil to that mixture. It is a routine one to me wherever there is a diarrhœic condition or any of those chronic conditions to take the yolks of two or three eggs and shake it up into an emulsion and give it after a few hours or give the fresh mixture. I would like to speak of one further point, the giving to the patient to drink of a very mild solution of nitro-hydrochloric acid, just enough to make a pleasant sour taste, with a little lemon rind floating in it. It is pleasant to the taste and the best antiseptic that I know of in the intestinal canals.

Dr. Maggie L. McCrea: I was very much interested in the paper, because last year I couldn't attend this meeting because of two very serious cases of typhoid fever. I am very much pleased with the Doctor's line of treatment, and with regard to milk as a food, where it is used I think it is sufficient of itself. I have my nurses watch the stools carefully for undigested milk and then we think and study as to what will take place when there is undigested milk. In my experience two years ago there were two of them ill after attending a wedding in Johnson county. There were some forty cases growing out of this same wedding, and all had symptoms of typhoid fever. One of my patients had considerable delirum, and I spent the night there for fourteen nights, but the patient recovered. I want to state that it was typhoid fever, because a young cousin of mine who was in rather poor health became ill with the same symptoms. The cousin didn't have any nervous symptoms, which each of these two had, but she had a higher temperature, some degrees higher, and had some hemorrhage from the bowels. I had some trouble with her diet, but she finally recovered also. The nervous symptoms were the most marked in any of the cases, and it has been a matter of interest to me as to just how they became infected with typhoid fever. I know that some of the physicians went from Holton to the house and made an investigation. I don't know whether any of the physicians are here or not; if they are I would like to hear from them.

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FROM the trend of opinion as we gather it from current literature, it seems that the old system of didactic teaching is losing favor with both teacher and students. Students are beginning to appreciate the value of closer attention and more personal application to each line of work, and naturally are little inclined to use valuable time listening to repititions of what they are usually compelled to learn from text books. A lecture on anatomy is really so much time lost, for the larger per cent. of the students will only acquire their knowledge of the subject by close application to the text book and dissections, so with many other of the fundamental branches. Practical instruction is absolutely the *sine qua non* in the proper preparation of a physician, and much of the present system can yet be changed to great advantage. Since the student must depend upon text books for a certain per cent. of information, it seems reasonable and economical to dispense with a large per cent. of these lectures, and devote the time thus saved to quizzes, clinics and practical demonstrations. The necessity for a change is felt to a greater extent in the large schools where hundreds of students congregate. Students feel that the time is entirely too limited for the amount of work they are required to do, and oftentimes that they might better depend entirely upon what they can acquire by observation, than attempt to crowd into their minds all they are compelled to hear. It would, of course, be difficult to eliminate lectures on practice of medicine or surgery in any of their branches for the reason that here a good lecturer has an opportunity to give his class the benefit not only of his own personal experience, but an epitome of the experience of a great many others. The clinical application of the theories of practice, however, excells all other parts of a course in medicine in perfecting the student's knowledge and ability, and the nearer our courses approach the point where every subject taught embraces its clinical or practical demonstration, the nearer we will approach perfection in medical education.

Acute Bright's Disease.

Albuminuria is a sign of abnormal perviousness of the glomeruli and the pathological changes which the glomeruli undergo. When there is abnormal perviousness of the glomeruli, there is transudation into the urine. Change in the urine alone is a diagnostic symptom of renal disease, and it is usually some alteration in the urine which directs our attention to disease in the kidney. Next to albumin in the urine in importance is the presence of hyaline casts, which are the most common and the most important form of casts, and to a certain extent, represent the ground work of the different varieties of kidney disease. They are perfectly homogeneous; clear as glass, colorless, soft and flexible. The presence of

hyaline casts are a sure sign of kidney disease. In normal urine no casts are found. Blood casts point to renal hemorrhage. Epithelial casts to desqumation of the epithelium in the kidney. White blood corpuscles to an emigration of the colorless cells through the walls of the blood-vessels. Fatty granular cells point to fatty degeneration in the kidneys. Brights disease often shows a chronic character from the start. The disease seems to have developed of itself in a previously healthy person. Malarial poisoning may lead to chronic nephritis. It is also attributed to syphilis and tuberculosis. People in the middle period of life are more liable to the disease than those who are younger. In the chronic form we find the same changes in the kidney as in the acute form. The special characteristics of the chronic form, in contrast with the acute, is a genuine interstial connective tissue, poorer in cells, which take the place of the normal structure. In this lies the anatomical evidence of the longer duration of the disease. The complete atrophy of the epithelium, and the time for the proliferation of the connective tissue cells require more or less time for their accomplishment. The whole of the kidney is not uniformly affected. In some portions the atrophy and proliferation of connective tissue predominate, while in other portions new inflammation and degeneration are taking place.

Treatment of Fibrous Ankylosis by Super-heated Dry Air.

Canadian Practitioner.

Mr. W. J. Walsham, of St. Bartholomew's Hospital, London, presented a paper to the American Orthopedic Association on treatment of static flat-foot by means of an apparatus which enabled him to employ dry air, heated to a very high temperature, for a period varying from thirty minutes to one and one-half hours. The results were very satisfactory; a considerable degree of motion and suppleness being obtained after each application in feet which were rigid beforehand.

Dr. V. P. Gibney, surgeon-in-chief of the Hospital for Ruptured and Crippled, New York, presented before the Practitioners' Society (*Medical Record*) a paper giving notes on several cases of stiff and painful joints, including rheumatic and tubercular cases, treated in the same manner.

Three of the cases were of firm fibrous ankylosis of the knee following tuberculous ostitis.

Case 1—On commencing hot-air treatment had 4 degrees of motion. Was given one bath daily of forty to fifty minutes' duration, at a temperature ranging from 255° to 280° F. Gained from 3 to 4 degrees of motion each treatment, or a total gain of 24 degrees after seven treatments.

Case 2—Had 15 degrees of motion, and after six treatments gained 12 degrees without any force being used. It was doubtful whether active disease was fully arrested in this case, and so treatment was discontinued.

Case 3—No motion, and any efforts to move the joints elicited great pain. After two or three baths no gain was made in the correction of the deformity, and joint seemed just as sensitive if any attempt at motion was made.

The adhesions in this case were afterward broken up under an anesthetic, and on coming out from its influence, the pain, which was intense, was quickly relieved after the knee was placed in cylinder at a temperature of 280° F. These may be taken as fair samples of the good effect which one may expect from superheated dry air in this class of cases.

One case of rheumatic arthritis which had existed six years, and resisted the treatment at several of the baths of the United States, showed considerable improvement after three or four treatments at a temperature ranging from 240° to 260° F.

By massage and traction, supplemented by large doses of potassium iodide, some improvement was obtained before hot-air plan was tried; but all motions of knees, elbows and hands were limited and painful.

After baths, as above stated, she expressed herself as very comfortable, and massage

and passive motion was subsequently employed without producing any reaction, and very little pain. Breaking up small adhesions caused some pain, but it quickly passed off, leaving all joints much more flexible.

Two cases of traumatic arthritis of knee are recorded as considerably improved—each one gaining a range of motion, freedom from pain and general comfort, after three or four treatments.

One case of chronic sciatica, which has proven very obstinate, received a good deal of relief from pain after a single treatment.

Eczema.

Eczema represents about one-half of the eruptions of dermatology. Most of the eruptions found in dermatology present a definite lesion, while eczema presents a variety of definite lesions. Many consecutive cases may present themselves to the physician in a day or a week, and yet no two of them will look alike or appear upon superficial examination to be examples of the same condition. They can hardly be said to bear a family resemblance. Happily for dermatology the larger proportions of cutaneous diseases are characterized by a single lesion. In eczema we have a number of primative lesions, each in a measure exististing for itself as the sole lesion. The varieties of eczema depending upon primitive lesions, are the errythematos, vesicular, pustular, papular, exfoliative and fissured.

When eczema lasts for a lengthened period of time, it is said to be chronic. The degree of inflammation varying from week to week. Location influences the form of the lesion. The principal lesions in this connection are those seen on the scalp, face, hands and about the genitals and anus.

A typical eczema may be divided into three stages, the first stage being that of congestion and the formation of vessicles, the second stage that of exudation and crusting, and the third stage that of dryness, scaling and healing.

Eczema Vesiculosum—At first there will be a sensation of heat or a slight pruritus, which is soon followed by congestion of the surface, followed by a crop of closely aggregated vesicles, filled with a clear, transparent serum. These vesicles differ from the vesicles in herpes, in scabies, in varicella, in zoster in a most characteristic manner. In eczema the vesicles are so packed together that it takes a sharp eye to distinguish their separate contours. They consist of a very thin, delicate, epidermic covering, which for a brief period retains lymphy exudation. The exudation from within soon loosens the epidermic covering so that usually from 24 to 36 hours the vesicles have disappeared and we find in their place a red exudating surface.

Eczema pustulosum differs from eczema vesiculosum in the presence of pustules instead of vesicles. In this form we have added to the other the presence of leucocytes and between the vescicular and the pustular forms we have an indefinite variety of forms due to the leucocytes that exist in the exudation, giving rise to the sometimes vesicular and pustular manifestations. In this form we have the addition of some pus forming germ added to the vesicular variety referred to. The second stage of purulent exudation has no definite limit; it may last for a few days only or it may be prolonged for weeks or years, or terminate in eczema rubrum. The exudation lessens in quantity and finally disappears and the skin returns to its normal condition.

Eczema Exfoliatum—In the exfoliative form we have neither vesicles nor pustules, but instead an exudation which has left the vessels of the papillary layer which separates the superficial layer of the epidermis and causes it to be exfoliated.

Eczema Papulosum—In this form the tendency to exudation is lessened and the fluid does not gain on the surface but collects in the cells of the rete and forms little papules. These may be somewhat closely connected or there may be considerable distance between them and the surface will be dry unless the pruritus leads to scratching and they are torn, when a small quantity of serum may exudate and dry into a quantity

of minute scales. But in the course of time the papules tend to subside and we have a glossy and scaly surface. This form of eczema is quite common upon the extremities.

In eczema fissum we have neither vesicles, papules nor pustules nor extensive exfoliation, but instead we have a reddened surface, with small cracks or fissures extending through the stratum cornemium and some through the stratum malphigi. This form of exudation is of frequent occurrence among the laboring classes and especially so among the washer women, whose hands are exposed to alterations of temperatures.

Eczema erythematosum appears on the face as a red patch or patches, and is often mistaken for lupus erythematosis. There is no exudation, but there may be found upon the surface of the reddened patches fine scales, and this form of the disease is of often of long duration, unless properly treated.

A French Surgeon Arrested for Not Disinfecting His Instruments.

The Lancet.

Dr. Laporte, who is known to many American tourists as having spent ten years of his professional career on board the French line of transatlantics as ship's surgeon, has been arrested for performing a surgical operation upon a lady with instruments that had not been properly disinfected. It is true that the patient has been ill of blood poisoning, but until his arrest very few people even in the medical profession were aware of the existence of any law exacting the disinfection of a surgeon's instruments before he used them. The offense is a technical one and is punishable by two years' imprisonment. The Parisian hair dressers and barbers are up in arms against the prefect of police, who is endeavoring, on the demand of the government hygienic council of the department of the Seine to enforce an equally peculiar law providing for the cleansing and disinfection of combs, razors, powder puffs, brushes, sponges and scissors before use on each individual, the object of this grandmotherly regulation being to prevent the propagation of microbes and germs of disease. The Parisian barbers declare they have neither the time nor the inclination to obey the order and that sooner than conform thereto they will strike and leave the male portion of the population of the most elegant metropolis of the world to go unshaven and unshorn. It is felt there that while there is a certain amount of justice in the arrest of Dr. Laporte, the authorities are going too far in endeavoring to enforce the regulations concerning the barbers, whom it is moreover injudicious to antagonize, since these shops and establishments constitute the scene of so much political discussion and gossip.

A New Pessary.

Medical Review of Reviews.

The *Daily Lancet* prints notes of the following case, which first appeared in the *Maryland Medical Journal*, by Dr. J. H. Dixon.

"Of the various instruments usually employed for the relief of prolapsus uteri, I found none suitable in the following case:

"A lady aged 78 years sustained a laceration of the perineum in her first labor. She had had a number of children since. For thirty years she had suffered from prolapsus of the uterus and vagina, with slight cystocele and rectocele. A cup-and-stem pessary was abandoned after several years' use, and nothing worn for eight or ten years except a cotton tampon occasionally. After failure to keep in place the atrophied uterus and relaxed vagina by the closed lever or ring pessary, all forms of which slipped down at once, and an operation being out of the question, I inserted a hollow rubber ball, two and one-fourth inches in diameter, such a ball as children play with. I compressed it after puncture to get the air out and inserted it, when it readily expanded, full of air, and gave prompt relief, its presence not being felt. The patient was at once

free from the frequent desire to urinate, and which was a constant symptom.

"I am not aware that the principle involved in this little instrument has ever been applied to pessaries. It is the self-expansive force of the pessary, acting after insertion. By compression it enters the unstretched orifice of the vagina. It cannot get out except by recompression or by wide dilatation of this orifice."

Centrilobular and Pericellular Cirrhosis.

Medical Review.

Dr. J. E. Adami, in the *Montreal Medical Journal*, concludes a long article on cirrhosis with remarks regarding these two interesting phases of hepatic disease. The centrilobular form apparently only develops as a consequence of chronic heart or lung disease associated with passive congestion of the liver and the condition of nutmeg liver. Passive congestion in general may lead to fibroid overgrowth originating around the veins, and it is around the central intralobular branches of the hepatic vein that such fibroid overgrowth may at times be recognized.

While sundry French observers would ascribe one form of hypertrophic cirrhosis to this central development of fibrous tissue, it is difficult to agree with them. The liver of passive congestion may be larger than normal, but congestion is not hypertrophy, and associated with any degree of centrilobular cirrhosis there is marked hypertrophy of the liver cells, while the amount of connective tissue laid down is relatively slight as compared with what may be developed in perilobular cirrhosis. It is unfortunate that this term, hypertrophy, has been introduced at all in connection with cirrhosis. This form also is incapable of being recognized clinically; it may be suspected in long continued obstructive disease. It is in every respect one of the minor forms.

Regarding pericellular or replacement cirrhosis, I would say, that while I am inclined to think that in portal chirrosis there is primarly an overgrowth of connective tissue around the medium sized branches of the portal veins, and recognize a similar deposit occurring around the bile ducts, arteries and branches of the hepatic veins, there is another highly important deposition or develowment of new connective tissue in the liver which yet remain to be discussed, one which up to the present receives too little attention, although from time to time high authorities, such as Kelsch and Wannebrouch, Beale and Grandmaison have more or less called attention to it.

Where isolated cells of a tissue or collections of cells atrophy and die, there is in general an attempt to replace them, if not by cells of a similar nature, then by connective tissue, or, failing this, by fluid (as in some cyst formations). A replacement fibrosis of this nature may be localized, as after scattered necroses through the liver substance. Such fibrosis very possibly explains in part the cirrhosis occurring in malaria, and in those infectious and septic diseases in which sporadic necroses of the liver are becoming more frequently recognized. Or on the other hand, it may be more generalized, affecting the periphery of the lobule, or in some cases the whole lobule. In the Pictou cattle disease this could be seen in its various stages. Pictou cattle disease is a chronic infectious disease of cattle in Nova Scotia characterized especially by extensive cirrhosis of the liver.

In early cases, as first pointed out by Dr. Wyatt Johnston, the liver cells show various evidences of degeneration, and this stage is followed by atrophy so extensive that in advanced cases all the cells of some lobules may become unrecognizable, their place being taken by a delicate connective tissue. In other regions, short columns of the atrophied cells may be so isolated, and surrounded by similar connective tissue, while, as in biliary cirrhosis, there may be very numerous imperfectly formed bile canals, examples of which have been termed "revertionary" degeneration of liver cells. Along with this there is in general singularly little small-celled infiltration. The process is essentially one of hypertrophy of the liver cells by

toxic agency followed by replacement fibrosis. It is interesting to note that in all cases where this pericellular cirrhosis is well marked the liver tends to be enlarged—hypertrophic—or if not enlarged is found hobnailed. There seems to be a difference in the way in which the new connective tissue is laid down. Whereas in ordinary portal cirrhosis there is a frankly inflammatory infiltration of small cells, followed by connective tissue growth, the new tissue is typically cicatricial, that is, with full development it contracts very markedly, and so produces the hobnailed condition. In such cases the atrophy of the liver cells is secondary, and is in the main due to the presence of the fibrous bands. In the cases of extensive replacement cirrhosis above referred to, there is curiously little small-celled infiltration; a loose transparent connective tissue develops which evidently is not nearly so prone to contract.

Degeneration and atrophy of the liver cells may be brought about in four ways:

1. By pressure.
2. By toxic substances reaching the cells by the circulation.
3. By toxic substances reaching them along the bile capillaries.
4. By arrest of function resulting from obstruction of the bile ducts.

To the first of these we have already referred; the contraction causing the atrophy does away with the opportunity for a replacement fibrosis. About the third possible way we know little. It is unlikely that toxins should diffuse up the bile canals in a direction contrary to the flow of bile. With regard to bacteria penetrating the liver along the bile ducts and producing toxins we are in doubt. We know from the researches of Welch, Flexner and others, that pathogenic microbes are not infrequent in the gall bladder, and in the last two cases of hobnailed liver coming to the post-mortem room of the Royal Victoria Hospital we were not a little surprised to gain cultures of the B. coli communis (the most common form to be found in the gall bladder) from the liver juice when other glandular organs did not show this form. But on the whole it is for the present to be regarded as unlikely that degeneration of the liver cells and cirrhosis are induced to any considerable extent by toxic agencies passing up the bile duct and capillaries. It would seem more probable that obstructed and perverted action of the liver cells by closure of the bile ducts, lead to their degeneration.

The Nervous Lesions Associated with Chroic Alcoholism.

The Philadelphia Polyclinic.

After describing the lesions of the nerve-cells of the rabbit's brain, induced experimentally by chronic alcoholic poisoning, Berkley (*John Hopkins Hospital Reports*) dwells on the points of correspondence between the lesions and the symptoms. The sensory derangement, the exaggerated sensibility of the skin, the anesthetic troubles, the ocular and auditory disorders correspond to the beginning of the vascular disturbances, when the nerve cells, irritated by an insufficient supply of proper nutriment, and excited by the presence of a poisonous stimulous, overact for the time; and then, as nutrition is still withheld from them, altered metabolism results.

The beginning swelling of the dendrites of the sensori-motor region is marked by paresthetic and anesthetic symptoms, those of the purer sensory region by visual and ocular troubles, and some amnesia, especially for recent events; in other words, the cells that have the function of evolving and transmitting thought cannot work properly, and defective memory results. Later, as the motor cells are more and more involved, and nuclear changes begin, continuous tremor becomes apparent, and the muscles no longer co-ordinate perfectly, unless for a moment under the direct influence of the will. Still later, when a portion of the cell-structures have become highly degenerated, and the altered cells have become more numerous, the already tottering will-power becomes more and more deadened, and memory and judgment fail; and when the degenerative process is far advanced, incomplete dementia

is the final result. The fact that only a portion of the cells of the cerebum are involved in the degenerative process does not militate against the entire conception of the pathological entity. The nerve elements of the brain are intricately united, one with another, by means of their axons and collaterals, and are not able to functionate perfectly unless the normal relations to one another are preserved. A lesion in one cell will induce disorders in the function of two or more cells not involved in any morbid change, the intricate system of collaterals issuing from one cell influencing directly the impressions and nervous impulses arising from many others, and in this way widespread disordered action of large numbers of the cerebral cells may be the result of disease in a comparatively few elements.

Exercise and Carbonated-brine Baths in the Treatment of Chronic Heart Disease.

American Medico-Surgical Bulletin.

Dr. Satterthwaite (*Post-Graduate*) details the methods employed in treating chronic heart disease at Nauheim, Germany, and in addition the treatment of a number of cases by this method, by himself. The author had at his disposal the important Nauheim salts and "mutterlauge," the uncrystalized liquid remaining over after the manufacture of salts at the works. This "mutterlauge" is especially strong in calcium chloride, which is known to be a very important ingredient of the Nauheim waters. The author's baths were carbonated by means of an apparatus, consisting of a steel drain of about twenty-five gallons' capacity, containing the liquid carbonic acid, with a pressure-regulating gauge, charging hose and mixers designed to receive the gas and water, and mix them intimately on their way to the tub. The dial on the gauge enabled the operator to charge the bath with the precise proportion of carbonic acid gas required, whether one-half per cent., one per cent. or more.

For those who wish to improvise a bath by simpler methods, another plan may be adopted. To generate the gas, solid discs or tablets of acid sulphate of soda and powders of bicarbonate of soda are used. After the bath has been prepared with Nauheim salts, or if such be not procured, with common or sea salt, the powders are dissolved in the water and then the discs or tablets. The evolution of gas will last for from twenty to thirty minutes. To get a one per cent solution in a fifty-gallon bath, one should take about five pounds of common or sea salt. The strength of the salt bath as commonly employed at Nauheim, is from 2 to 3½ per cent.

Three cases are cited in detail; one of cardiac hypertrophy, mitral regurgitation, and arotic obstruction; a second of cardiac hypertrophy, aortic obstruction and insufficiency; a third, of cardiac hypertrophy, mitral regurgitation, and irritable heart.

The temperature of the bath was about 95°, because a lower temperature was chilling. At first the duration of the bath was four minutes, at the end eight minutes. With the baths the usual resistant exercises were given. During treatment the pulse fell from 100 to 68 in the first case, it subsequently, after returning home and resuming his professional work, varying from 72 to 80.

The second case did not do so well, the pulse being reduced to but 84, the contraction of the heart not being uniformly progressive. There were remissions, it being the experience of the author that while under this treatment the contraction is gradually progressive. There are intermissions or even retrogressions or relapses in its course at occasional intervals.

In the third case the pulse was reduced from 92 to 73. The course of treatment lasted four weeks, usually, the first week being merely one of preparation, the baths being taken for three weeks, usually. The author feels that a new era in cardiac therapeutics is introduced. Cases of enlarged hearts with valvular lesions, and neurosis with cardiac manifestations yield more readily, while cases with marked dropsy, venal or pulmonary complications are to be avoided.

The Passing of Plaster.

American Medico-Surgical Bulletin.

Dr. E. A. Tracey (*Virg. Medical Semi-Monthly*) believes that plaster of Paris as a routine means of surgical fixation is doomed, and that its wane will be rapid, because of its inherent defects, and of the advantages possessed by its rival—wood-fiber splinting.

The following objections to the plaster of Paris treatment are offered:

1. It is futile to expect the immobilization of limbs swathed in soft and compressible cotton by a rigid bandage outside the cotton. Supposing fixation to be efficient at first, it is soon destroyed by subsidence of swelling, and later by tissue-atrophy that always takes place in an idle limb.

2. It is destructive of the functions of injured joints by preventing the timely application of passive motion to them.

3. Plaster dressing prevents the surgeon's ready inspection of the parts treated—a condition not tolerated in any ordinary wound, and which, for as grave reasons, should not be tolerated in fractures. On the other hand, facts are presented relative to the wood-fiber treatment of fractures, as follows:

1. Wood-fiber is adaptable to the treatment of fractures of all the limbs, it being mouldable directly upon the patient's limb.

2. It produces immobilization of the parts because moulded directly upon them, and retained thereon, without the intervention of cotton batting, which defeats our object, if it be fixation. This efficient immobilization is easily maintained by keeping the roller-bandage snugly applied over the resilient splint; thus subsidence of swelling, or tissue-atrophy, need not interfere with the fixation produced by wood-fiber.

3. It permits the surgeon to inspect at any time the fracture he is treating, by the simple unwinding of a roller bandage. The reapplication of the splinting is easy—there being no pad or compresses to become disarranged.

4. This ready removal of the splinting permits the timely application of passive motion to an injured joint.

5. Wood-fiber splinting is lighter than any other; no complaint is heard from the patient because of its weight—even in cases where the hip and knee are both immobilized.

6. Wood-fiber is strong, rigid and durable—splints made from it having been worn in some cases (hip fixation) for eleven months. The material is clean, porous, and does not irritate the skin. In many cases splints have been worn for weeks immediately in contact with the skin, without excoriation.

7. No padding is required in wood-fiber splints. This is important, for it is hard to comprehend how plaster of Paris or other material can produce immobilization of the bones in a limb swathed in cotton batting.

8. Wood-fiber material permits of rigid antisepsis in the treatment of compound fractures, both of the wound, always accessible by removal of the bandages, and also of the splint material, by moistening it with a strong solution of corrosive sublimate. Plaster of Paris, as ordinarily applied, is neither aseptic nor antiseptic.

9. The mastery of wood-fiber splinting readily comes to one possessing a modicum of mechanical ability.

The wood-fiber is made in large sheets, of two thicknesses, to serve all kinds of splinting. A splint-blank can be cut from a sheet of the material, moistening it with water, and bandaging the moistened splint form over the part to be splintered.

Western Surgical and Gynecological Association.

The next meeting of the Western Surgical and Gynecological Association will be held in Denver on December 28 and 29. It is the purpose of the members of the association, and of the committee to make this meeting one of unusual interest, and the papers and attendance promised indicate that the effort will be successful.

This association is *the* surgical society of the West, and must become to the West what

the Southern Surgical and Gynecological Assoiation is to the South.

To this end it is desired that many able and skilful surgeons and gynecologists of the West be brought to this meeting, and enlisted in the organization for scientific work.

We are so much cut off from the scientific societies of the East and South that it is imperative that we create for ourselves a society that will foster among us the true scientific spirit, and give us a better knowledge of each other.

If you are doing surgical and gynecological work, and can by any possibility arrange to be at the Denver meeting, do so by all means, it will be representative of the best and most advanced surgical skill among us, and you cannot afford to be absent.

If you have a paper you would like to read, write to the secretary at once, and ask him for a place on the program, but make your plans to go to Denver on the 28th of December, and at least contribute by your presence to the success of the association. They need us, we need them.

A banquet will be given the visitors by the physicians of Colorado, and every effort will be put forth to make the stay of each individual as pleasant and profitable as possible.

The Treatment of Hemoptysis.

The London *Lancet* of May 1, 1897, summarizes this subject as follows:

The direct effect of drugs in arresting the hemorrhage which occurs in cases of pulmonary tuberculosis is very difficult to estimate with any amount of accuracy. The majority of cases tend to become spontaneously arrested and any drug which has been given previously is apt to get the credit of stopping the bleeding. Dr. Deguy believes strongly in the value of full doses of gallic acid in this condition and he gives this drug in doses of from 4 to 15 grains in the form of powders, pills or solutions. In cases where the hemorrhage is very severe he associates the gallic acid with ergotin, thus:

Gallic acid.....30 grs.
Ergotin .....15 grs.

Make into twenty pills, of which five or more are to be taken each day. Others, however, do not put much faith in the action of these and other astringents of the same class, and it is difficult to see how such drugs can have any definite action on the bleeding vessels, the walls of which are generally severely diseased. The application of an ice bag is also another method which is believed by some to be efficacious, while others will have nothing to do with it. It is again difficult to see how this method of treatment can be of any direct use, except by mechanically assisting to keep the patient quiet. One of the most effective methods of treating an ordinary case of hemoptysis consists in giving a small hypodermic injection of morphine, which generally results in arrest of the hemorrhage, and the patient is at the same time mentally soothed.

Medical and Surgical Iconcolasm.

Marvin L. Graves, M.D., in Medical Record.

Let me point out to you some of the dangers that will threaten us if we lose this spirit of beneficient inconoclasm in our professional work. We do not record accurately and fully our cases in detail. We no not take time to study fully the disease we treat. We do not examine each case and note all signs and symptoms. We do not group, tabulate, and analyze series of cases, and thus get at correct conclusions. We do not report or write up our cases, and subject them to the kindly criticisms and discussion of the profession. Our haste and inaccurate style are illustrated in the following:

How many of us, called to a man suffering intense pain, ever stop to examine him carefully before shooting a hypodermic of morphine into his arm? Admit the immediate necessity of relief—how many of us leave the house when pain has ceased without further effort to find out what really was the matter?

How often, when asked to prescribe for piles' we write a prescription without even requesting an examination or knowing the condition, and later find the patient in the hands of an advertised quack, being cured of ulcer in the rectum? How frequently complaint of headache receives a routine prescription without question, when uremic toxemia or uterine disorders are the offenders? How often does a uric-acid storm or a billious attack find itself labelled malarial fever, and cured in twelve hours with calomel, and quinine and arsenic? How frequently does a slight dermatitis, insignificant in nature and effect, flame out a violent erysipelas, and require all the skill of Dr. Blowhard to cure in two days? How often, oh! how often is typhoid fever turned into febricula, and chased off the field of action in four days by the specific treatment of Dr. Greatman? How frequently is an ordinary bronchitis with engorged liver and pain in the side kept under dim gaslight and slippered tread, and whispered consultation for two weeks; or a terrible pneumonia throttled in twenty-four hours by the heroic treatment of Dr. Allgas?

Antipyrectics in Acute Endocarditis.

In a lecture on "Acute Endocarditis," published in the *Chicago Clinical Review* (December, 1897), Dr. Joseph M. Patton, professor of internal medicine, Chicago Policlinic, says of the antipyrectics (which it may be advisable to use to control the rise in temperature in cases where the fever is severe): "Antipyrin is too dangerous. Acetanilid and phenacetine are somewhat safer, especially the latter, when given in small doses of three grains in connection with quinine. There is less depression and perspiration, however, following the use of lactophenin than phenacetine in conditions of this kind, and I would regard it as preferable to other remedies of this class under these circumstances, either alone or in connection with quinine. Five to seven grain capsules may be given every two hours, as necessary."

Cures for Stings and Bites of Insects.

National Druggist.

M. Brocq highly extols the following against bites and stings of insects of all descriptions:

Camphorated oil of chamomile	100 parts
Balsam of storax	20 parts
Essential oil of mint	5 parts

Mix.

Another highly extolled formula is as follows:

Balsam of Peru	1 part
Sytrax ointment	5 parts
Olive oil	4 parts

Mix.

The following is proposed for the same purpose by M. Jacquet:

Naphthol	10 parts
Menthol	1 part

Ether, sufficient to dissolve.

Petrolatum, q. s. to make	100 parts

Dissolve the naphthol in ether, add the menthol and finally incorporate the solution with the petrolatum.

Conversational Pitfalls.

London Punch.

Miss Meadowsweet—Excuse my ignorance, but ought I to call you Mr. Squills or Dr. Squills?

The Doctor—Oh, call me anything you like. Some of my friends call me an old fool!

Miss Meadowsweet—Ah, but that's people who know you intimately!

A Natural Inference.

Corpuscle.

"Ya-as," said an Indian citizen, whose home lies in the fertile valley of the Waybosh, "I happened to be in Charleston when the first earthquake cum."

"What did you do when you felt the trembling?"

"I tuk 30 grains o' quinine, b'gosh."